

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004741**Date Inspected:** 23-Nov-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Geng Wei, Zhang Bao Wei**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Assembly**Summary of Items Observed:**

This report serves to document the events occurring on this date at the following location. Caltrans Quality Assurance (QA) Inspector Robert Vatcher arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

OBG Assembly Bay II

5AE- No Observed Welding Activity

5BE- No Observed Welding Activity

5CE- No Observed Welding Activity

3AE- No Observed Welding Activity

No deck panel to deck panel or diaphragm plate to floor beam flange welding occurring as of this time at DP56A & DP55A or DP53A & DP7A. No fit up and tacking as well. These joints are ready to be fit up and tacked.

3BE- No deck panel to deck panel or diaphragm plate to floor beam flange welding occurring as of this time at DP63A & DP64A or DP19A & DP61A. No fit up and tacking as well. These joints are ready to be fit up and

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tacked.

4AE- QA observed that deck panels DP72A & DP30A complete joint penetration welds are partially filled out by the FCAW process and require multiple SAW passes to be complete. DP31A & DP69A will be initially welded tomorrow when the FCAW process is utilized for filling in the root area over ceramic backing.

4BE- No deck panel to deck panel or diaphragm plate to floor beam flange welding occurring as of this time at DP79A & DP80A or DOP77A & DP43A. No fit up and tacking as well.

Mid bay-

QA observed that deck panel U-rib crack repairs continue as well as NPI from Oregon is on station to evaluate said cracks by way of the phased array ultrasonic testing method

Diaphragm plate to deck panel and U-rib joining being performed at DP324-002 welds 81 through 114 by qualified welding operator Wang Linjiang 051356. QA observed for this operation the FCAW process utilizing 1.4 mm diameter Supercored 71H E71T-1 electrode wire in DCEP mode. Welder Wang Linjiang 051356 the qualified welding operator was observed as well utilizing a stringer bead method for this evolution in the middle fill passes per the welding procedure specification WPS-B-T-2233-TC-U4b-F. QA measured amperage to be 213 (average), voltage at 25.0 and a travel speed of approximately 115 mm per minute diaphragm plate to U rib weld 102.

Tacking and fitting being performed at SEG010A-005 SP177 & SP176 by the SMAW method by qualified welder Xu Liguang 2001134. No immediate issues however work is in process.

Back grinding being performed at SEG010A-003 BP192 & BP196. QA spoke with ZPMC QC personnel Wang Jie about how the written nomenclature, for the components are written with a combination of Chinese and English and therefore illegible. The contract requires English as the only language for reports and other documentation.

5CW- No deck panel to deck panel or diaphragm plate to floor beam flange welding occurring as of this time. No Observed Welding Activity elsewhere as well.

5BW- QA observed in process joining operation of side plate stiffener SP510-001 weld 061 to side plate SP510B by qualified welding operator Li Xianyou 047866 in the 1G flat position. No ZPMC QC personnel available at time of QA observations.

Welding operation in two locations at the FL-3 to side plate by two welders in the 4G position.

5AW- No deck panel to deck panel or diaphragm plate to floor beam flange welding occurring as of this time. No Observed Welding Activity elsewhere as well.

4BW- QA observed that deck panels DP76A & DP75A complete joint penetration welds are filled out by the FCAW process only in the top portion and require further filling by the SAW process. As well deck panels DP73A and DP39A require initial tacking and filling out.

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4AW- QA observed that deck panels DP68A & DP67A complete joint penetration welds are entirely filled out in the top portion by the SAW process. As well deck panels DP27A and DP65A are in the same condition.

3BW- QA observed that deck panels DP57A & DP15A complete joint penetration welds are partially filled out by the SAW process and require approximately two more passes to be complete. As well deck panels DP60A and DP59A are in the same condition.

3AW- QA observed that deck panels DP52A & DP51A complete joint penetration welds are completely filled out by the SAW process. As well deck panels DP49A AND DP3A are in the same condition.

North Bay of OBG Assembly- Bottom plate to Bottom Plate joining operation by the FCAW welding process in the 1G position by qualified welding operator He Junrong. ZPMC QC personnel Zhang Xiao Ming is present for this welding operation. QA performed welding procedure specification (WPS) verification as well and observed the following. FCAW process utilizing 1.4 mm diameter Supercored 71H E71T-1 electrode wire in DCEP mode. Welder He Junrong 201215, a qualified welding operator was observed as well utilizing a stringer bead method for this evolution in the middle fill passes per the WPS-B-T-2231-B-U2-F-1. QA measured amperage to be 277 (average), voltage at 29.5 and a travel speed of approximately 495 mm per minute at BP90A to BP36A.

North Sub-Assembly Area (Outside of OBG)

No observed joining operations

### Summary of Conversations:

No relevant conversations this date.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Peter Dauterman, who represents the Office of Structural Materials for your project.

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**Inspected By:** Vatcher,Robert

Quality Assurance Inspector

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**Reviewed By:** Cuellar,Robert

QA Reviewer